

CURVED MICROMACHINED ULTRASONIC  
TRANSDUCER ARRAYS AND RELATED  
METHODS OF MANUFACTURE

ABSTRACT OF THE DISCLOSURE

5       A curved sensor device, such as an ultrasonic transducer array, is fabricated from a flat micromachined sensor (such as cMUT or pMUT) array constructed using micromachined electro-mechanical systems (MEMS) techniques. The device comprises: a support structure comprising a spine having a profile that is generally curved and a multiplicity of teeth extending from one side of the curved spine; and a multiplicity of sensors built on the support structure. The spine can be bent forward or backward and attached to a curved front face of a support member, thereby causing the sensors to adopt a curved array.